From:

Strynar, Mark

Sent:

Thursday, July 06, 2017 3:43 PM

To: Cc:

Johnson, Chris McCord, James

Subject:

RE: Sampling

Chris,

I will be away on vacation from July 7-20th. However I think my post-doc can handle it. If not with the nitric acid spiking they are good for several weeks until I return.

So then do you need QCs for both my efforts and test America as I prepared last week blind to us both tomorrow??

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]

Sent: Thursday, July 06, 2017 3:02 PM To: Strynar, Mark <Strynar.Mark@epa.gov>

Subject: Sampling

Mark, I just finished a call with Linda Culpepper and the Supervisors of the Fayetteville and Wilmington regional offices. We want to do one more sampling event for the Fayetteville sites (three sites) next week on Wednesday or Thursday. This is to get another result for the upstream sample since it was only done in weeks 2 and 3. Is that doable from your end? If so, we would need another set of the QC samples if you so desire. Samples will also be going to TestAmerica once again, so we would need a QC set for them as well. We have additional sample containers available from the set you provided, so we won't need those this time. Let me know if all this is acceptable for your laboratory. Thanks.

Chris Johnson

Environmental Program Supervisor Water Sciences Section / Organic Chemistry Branch

North Carolina Department of Environmental Quality Division of Water Resources

919-733-3908 office

4405 Reedy Creek Road Raleigh, NC 27607

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From:

Johnson, Chris <chris.johnson@ncdenr.gov>

Sent:

Thursday, June 29, 2017 3:04 PM

To:

Brantley, Mark

Cc:

Allen, Trent; Karoly, Cyndi; Satterwhite, Dana; Culpepper, Linda; Wiggins, Kent; Jones, Nick;

Strynar, Mark

Subject:

Sample bottles

Mark, I picked up the latest set of QC samples from EPA this morning. I have them in a cooler heading your way. The courier picked them up at 1:00 today so you should see them tomorrow.

There are six empty bottles in case you need them. There are also six QC samples. Three of them have HNO3 and three do not. The ones without acid are to be sent to TestAmerica in your next shipment to them. The three with acid are to come back to the EPA laboratory.

I think we had discussed sending the EPA cooler back with your last shipment, so you can just put everything for EPA in that cooler. Send back any bottles that you don't use since EPA reuses their bottles.

Let me know if I've left any needed info out. Thanks!

Chris Johnson

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From:

Johnson, Chris <chris.johnson@ncdenr.gov>

Sent:

Thursday, July 06, 2017 4:06 PM

To:

Perez, Helen I

Cc:

Gregson, Jim; West, Steve; King, Morella s; Culpepper, Linda; Satterwhite, Dana; Strynar,

Mark; Allen, Trent; Brantley, Mark; Karoly, Cyndi

Subject:

Sampling next week

I talked with Mark Strynar at EPA. They have agreed to accept another round of samples. I am going to take this week's samples over to them tomorrow once I receive the Wilmington set. They will prepare another QC set and I will get those to Wilmington, along with more sample bottles, via State courier on Monday. I believe Fayetteville has sufficient EPA sample bottles for one more round, but let me know if you don't.

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To: Subject: Strynar, Mark Sampling

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From: Strynar, Mark

Sent: Thursday, July 06, 2017 4:22 PM

To: Buckley, Timothy; Medina-Vera, Myriam

Cc: McCord, James

Subject: RE: Sampling

Not on my comments. Apparently Test America results were given to Chemours and they were surprised.

Mark

From: Buckley, Timothy

Sent: Thursday, July 06, 2017 4:19 PM

To: Strynar, Mark <Strynar.Mark@epa.gov>; Medina-Vera, Myriam

<Medina-Vera.Myriam@epa.gov>

Cc: McCord, James <mccord.james@epa.gov>

Subject: RE: Sampling

Is he basing "high" levels on your comments or have they seen Test America results. Either way, I agree that we can accommodate. We need to talk about timeline and whether we report in batches.

Tim

Timothy J. Buckley, PhD

Director of the Exposure Methods & Measurements Division

National Exposure Research Laboratory

109 TW Alexander Drive

Research Triangle Park, NC 27711

Email: buckley.timothy@epa.gov <mailto:buckley.timothy@epa.gov>

URL: http://www.epa.gov/heasd/staff/buckley.html

Phone: (919) 541-2454 (0); FAX: -0239

(919) 308-3480 (C)

From: Strynar, Mark

Sent: Thursday, July 06, 2017 4:09 PM

To: Medina-Vera, Myriam <Medina-Vera.Myriam@epa.gov

<mailto:Medina-Vera.Myriam@epa.gov> >; Buckley, Timothy <Buckley.Timothy@epa.gov</pre>

<mailto:Buckley.Timothy@epa.gov> >

Cc: McCord, James <mccord.james@epa.gov <mailto:mccord.james@epa.gov> >

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Thus I need to give Chris QC samples for Test America and for our efforts when he arrives tomorrow.

I will come to chat with you.

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Cc: McCord, James

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From: Johnson, Chris <chris.johnson@ncdenr.gov>

Sent: Thursday, July 06, 2017 2:16 PM

To: Strynar, Mark

Subject: RE: Sample Analysis - Chemours Fayetteville, NC

Thanks, Mark. I have forwarded this info to them.

Chris Johnson

NC DEQ-DWR

Water Sciences Section

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From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]

Sent: Thursday, July 06, 2017 2:00 PM

To: Johnson, Chris <chris.johnson@ncdenr.gov>

Subject: RE: Sample Analysis - Chemours Fayetteville, NC

Chris,

If we are referring to the trip spikes and blanks made up for the week 2 sampling:

This is correct: The Trip Blank is only DI water (with HNO3 preservative)

The spike blank(s) have the C3 acid dimer and (four) additional polyfluorinated compounds (also HNO3 preserved.) at a low and a high concentration in the range of 10 to 250 mg/L.

If they are interested here is what was spiked in. The chemical other than the C3 acid dimer were for my own lab validation efforts.

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]

Sent: Thursday, July 06, 2017 1:50 PM

To: Strynar, Mark <Strynar.Mark@epa.gov <mailto:Strynar.Mark@epa.gov> >

Subject: FW: Sample Analysis - Chemours Fayetteville, NC

Mark, did I respond sufficiently to the inquiry below? I didn't want to pull you into the email string. Thanks.

Chris Johnson

NC DEQ-DWR

Water Sciences Section

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From: Johnson, Chris

Sent: Thursday, July 06, 2017 1:49 PM

To: 'JOHNSON, MICHAEL E' <MICHAEL.E.JOHNSON@chemours.com

<mailto:MICHAEL.E.JOHNSON@chemours.com> >

Subject: RE: Sample Analysis - Chemours Fayetteville, NC

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From: JOHNSON, MICHAEL E [mailto:MICHAEL.E.JOHNSON@chemours.com]

Sent: Thursday, July 06, 2017 12:54 PM

To: Johnson, Chris <chris.johnson@ncdenr.gov <mailto:chris.johnson@ncdenr.gov> >

Subject: RE: Sample Analysis - Chemours Fayetteville, NC

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Page 14

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- 1. Was the trip blank spiked with anything?
- 2. Was the spike blank spiked with anything except the C3 acid dimer?

Thanks!

Mike

Michael E. Johnson, PE Environmental Manager Chemours Company - Fayetteville Works (910) 678-1155

The Chemours Company FC, LLC 22828 NC Highway 87 W Favetteville, NC 28306-7332

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From: Strynar, Mark

Sent: Thursday, July 06, 2017 2:00 PM

To: ':

'Johnson, Chris'

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From: Johnson, Chris <chris.johnson@ncdenr.gov>

Sent: Monday, July 03, 2017 4:48 PM

To: Strynar, Mark; Perez, Helen 1; West, Steve; Gregson, Jim

Subject: RE: EPA samples for this week

Thanks for the update, Mark.

Chris Johnson

NC DEQ-DWR

Water Sciences Section

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From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]

Sent: Monday, July 03, 2017 4:41 PM

To: Johnson, Chris <chris.johnson@ncdenr.gov>; Perez, Helen 1

<helen.perez@ncdenr.gov>; West, Steve <steve.west@ncdenr.gov>; Gregson, Jim

<jim.gregson@ncdenr.gov>

Subject: RE: EPA samples for this week

FYI,

We just got week #2 samples on our UPLC-MS/MS. Should have that data by Wednesday. Many samples exceeded our calibration curve of 250 ng/L from week 1. We had to dilute most 5x and the Chemours outfall 20x for analysis.

We will keep you updated. Have a safe holiday.

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]

Sent: Monday, July 03, 2017 4:04 PM

To: Perez, Helen 1 <helen.perez@ncdenr.gov <mailto:helen.perez@ncdenr.gov> >; West,

Steve <steve.west@ncdenr.gov <mailto:steve.west@ncdenr.gov> >; Gregson, Jim

<jim.gregson@ncdenr.gov <mailto:jim.gregson@ncdenr.gov> >

Cc: Strynar, Mark <Strynar.Mark@epa.gov <mailto:Strynar.Mark@epa.gov> >

Subject: EPA samples for this week

EPA gave us one set of QC samples this week. Three will be coming in from Fayetteville and three were sent to TestAmerica. So, you won't be including any of the EPA QC materials this week. Just wanted to let you know so you wouldn't be looking for anything else. Thanks.

Chris Johnson

Environmental Program Supervisor

Water Sciences Section / Organic Chemistry Branch

North Carolina Department of Environmental Quality

Division of Water Resources

919-733-3908 office

4405 Reedy Creek Road

Raleigh, NC 27607

Email correspondence to and from this address is subject to the

North Carolina Public Records Law and may be disclosed to third parties.

From: Strynar, Mark

Sent: Monday, July 03, 2017 4:41 PM

To: 'Johnson, Chris'; Perez, Helen 1; West, Steve; Gregson, Jim

Subject: RE: EPA samples for this week

FYI,

We just got week #2 samples on our UPLC-MS/MS. Should have that data by Wednesday. Many samples exceeded our calibration curve of 250 ng/L from week 1. We had to dilute most 5x and the Chemours outfall 20x for analysis.

We will keep you updated. Have a safe holiday.

Mark

From: Johnson, Chris [mailto:chris.johnson@ncdenr.gov]

Sent: Monday, July 03, 2017 4:04 PM

To: Perez, Helen 1 <helen.perez@ncdenr.gov>; West, Steve <steve.west@ncdenr.gov>;

Gregson, Jim <jim.gregson@ncdenr.gov>
Cc: Strynar, Mark <Strynar.Mark@epa.gov>

Subject: EPA samples for this week

EPA gave us one set of QC samples this week. Three will be coming in from Fayetteville and three were sent to TestAmerica. So, you won't be including any of the EPA QC materials this week. Just wanted to let you know so you wouldn't be looking for anything else. Thanks.

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Sent: Monday, July 03, 2017 4:04 PM

To: Perez, Helen 1; West, Steve; Gregson, Jim

Cc: Strynar, Mark

Subject: EPA samples for this week

EPA gave us one set of QC samples this week. Three will be coming in from Fayetteville and three were sent to TestAmerica. So, you won't be including any of the EPA QC materials this week. Just wanted to let you know so you wouldn't be looking for anything else. Thanks.

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From: Lindstrom, Andrew

Sent: Friday, June 30, 2017 9:06 AM

To: Maddaloni, Mark; Buckley, Timothy; Strynar, Mark

Subject: RE: PFAS in Cape Fear Drinking Water NC / R4 / NERL Collaboration

Attachments: Resnik & Wing 2007.pdf

Tim,

Following up on Mark's comment here, I think we (EPA) need to quickly find out if OW is working on an HA for GenX and at least go public with the fact that they are/are not working on it. OW should be issuing a statement on this.

We need to take charge of the narrative. Did we learn anything form CHEERS?

Also, I think we need to participate win public briefings where we - the authors of the Sun et al. paper - answer questions with NC DEQ and other appropriate policy folks. If we don't do what we can to work with this community on this issue we will lose the trust of the people we serve.

I know we (at the NERL level) may not have much influence on these things. I'd just like to hear my management say the right thing.

Please let me know if I can help in any way.

Thank you,

Andy

From: Maddaloni, Mark

Sent: Friday, June 30, 2017 8:42 AM

Cc: Hubbard, Carolyn < Hubbard. Carolyn@epa.gov>; Gregson, Jim

<jim.gregson@ncdenr.gov>

Subject: RE: PFAS in Cape Fear Drinking Water NC / R4 / NERL Collaboration

Thanks, Tim. Will the "Communications Plan" include a discussion of health-based benchmarks for GenX in drinking water to compare sampling results against?

----Original Appointment----From: Buckley, Timothy Sent: Thursday, June 29, 2017 5:14 PM To: Strynar, Mark; Lindstrom, Andrew; Medina-Vera, Myriam; Sivertsen, Scott; Johnson, Chris; Allenbach, Becky; linda.culpepper@ncdenr.gov <mailto:linda.culpepper@ncdenr.gov> ; helen.perez@ncdenr.gov <mailto:helen.perez@ncdenr.gov> ; nick.jones@ncdenr.gov <mailto:nick.jones@ncdenr.gov> ; cyndi.karoly@ncdenr.gov <mailto:cyndi.karoly@ncdenr.gov> ; dana.satterwhite@ncdenr.gov <mailto:dana.satterwhite@ncdenr.gov> ; mark.brantley@ncdenr.gov <mailto:mark.brantley@ncdenr.gov> ; morella.sanchez-king@ncdenr.gov <mailto:morella.sanchez-king@ncdenr.gov> ; Maddaloni, Mark; Hall, Renea; France, Danny; Risen, Amy J; Shehee, Mina; Langley, Rick; Sink, Marla; Munger, Bridget; Smith, Emily J.; Newton, Seth; Maguire, Megan; Tong-Argao, Sania Cc: Hubbard, Carolyn; Gregson, Jim Subject: PFAS in Cape Fear Drinking Water NC / R4 / NERL Collaboration When: Wednesday, July 05, 2017 2:30 PM-3:30 PM (UTC-05:00) Eastern Time (US & Canada). Where: Conference Call:

Feel free to offer additional agenda items if I have left something important out.

Agenda

- * Sampling Update
- o Addition of Fayetteville
- o Samples delivered
- o Samples analyzed
- o Incorporation of performance standards
- o Extending the sampling period
- * QAPP Progress

- o Sampling
- o Laboratory
- * Results status
- * Communications Plan Status
- * Scheduling next meeting

Notes / Follow-up from Linda Culpepper following 6/27 conference call

Follow up items from today's conf. call:

- * Regional staff have GPS coordinates for sampling locations. Will send an email with those from the Wilmington area. Mark please send those for the Fayetteville area.
- * Mark Brantley knows we also want a sample from the City of Fayetteville water intake on Monday. Mark appreciate you making arrangements in advance.
- * Chemours production staff will be onsite Monday July 3rd and production processes will be active, but some of the other staff will not be at the plant. Arrangements are being made for Mark to get access to outfall 002 for sampling. Test America will not be open July 4th. Due to their requirement to ice the samples, the samples from July 3rd will be held at the Fayetteville Regional Office in the lab refrigerator until Weds. July 5th at which time they will be shipped to Test America in ice. We will include that description in the QAPP and note on the Chain of Custody.
- * The sampling process at Chemours outfall 002 does involve using a dipper to collect the sample and then pour it into a container due to the access point being 6' above the outfall. The dipper is "rinsed" in outfall 002 effluent prior to sampling. We will include that description in the QAPP.
- * Chemours will pay for the trip blank, high spike and low spike analysis at Test America. Michael Aucoin, Chemours' AECOM consultant coordinating sampling for Chemours and the analysis for all the samples going to Test America, is talking with Test America about the subject EPA sample containers containing nitric acid. The sample kits DEQ received from Test America were not prepped with nitric acid. We will forward the response upon receipt.
- * Test America is only reporting results for GenX HFPO dimer acid.
- * Chris Johnson brought up the concept of getting production samples from the site. Michael Johnson will ask his management. We let Michael know we were going to take the upriver sample and Chris indicated that sample will help us know what they may be bringing into the plant and help understand the effluent leaving the

plant. Chris indicated having the production samples will help verify we are analyzing for the correct chemicals. Becky - know you were going to see if the EPA TSCA inspectors could/would take production process samplings. Wanted to give you a heads up about our conversation.

* I will get refinement on DEQ and DHHS contacts for collaboration on future sampling/analysis concepts during our Weds morning call with DEQ & DHHS. Look forward to those planning discussions.

* Jamie Kritzer, DEQ Public Affairs, is getting a Communications team meeting set with DEQ/DHHS/EPA contacts.

From: Maddaloni, Mark

Sent: Friday, June 30, 2017 8:42 AM

To: Buckley, Timothy; Strynar, Mark; Lindstrom, Andrew; Medina-Vera, Myriam; Sivertsen, Scott; Johnson, Chris; Allenbach, Becky; linda.culpepper@ncdenr.gov; helen.perez@ncdenr.gov; nick.jones@ncdenr.gov; cyndi.karoly@ncdenr.gov;

dana.satterwhite@ncdenr.gov; mark.brantley@ncdenr.gov;

morella.sanchez-king@ncdenr.gov; Hall, Renea; France, Danny; Risen, Amy J; Shehee, Mina; Langley, Rick; Sink, Marla; Munger, Bridget; Smith, Emily J.; Newton, Seth; Maguire, Megan; Tong-Argao, Sania

Cc: Hubbard, Carolyn; Gregson, Jim

Subject: RE: PFAS in Cape Fear Drinking Water NC / R4 / NERL Collaboration

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Johnson, Chris; Allenbach, Becky; linda.culpepper@ncdenr.gov;

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From: Johnson, Chris <chris.johnson@ncdenr.gov>

Sent: Thursday, June 29, 2017 3:08 PM

To: Perez, Helen 1

Cc: Huffman, David J; Satterwhite, Dana; Strynar, Mark Subject: RE: Sampling at International Paper raw intake

Acknowledged. Thanks, Helen.

Chris Johnson

NC DEQ-DWR

Water Sciences Section

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From: Perez, Helen 1

Sent: Thursday, June 29, 2017 2:28 PM

To: Johnson, Chris <chris.johnson@ncdenr.gov>

Subject: Sampling at International Paper raw intake

Chris,

Wanted to explain our procedure at International Paper raw sample site. We used their sampling pole (NASCO) with a clean wide-mouthed HDPE liter bottle at the end to use as a primary sampler. We rinsed the primary sampler three times with sample water before use. We also rinsed the sample bottles three times with sample water before the final sample was retained.

Helen Perez

Environmental Specialist

Water Quality Regional Operations Section

Division of Water Resources

Department of Environmental Quality

910-796-7215 <tel:910.796.7215>

Reception Desk

910-796-7323

Direct

910-350-2004 <tel:910.350.2004>

Fax

helen.perez@ncdenr.gov <mailto:helen.perez@ncdenr.gov>

Wilmington Regional Office

127 Cardinal Drive Ext <x-apple-data-detectors://3/1> ension

Wilmington, NC 28405

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North Carolina Public Records Law and may be disclosed to third parties.

From: Johnson, Chris <chris.johnson@ncdenr.gov>

Sent: Thursday, June 29, 2017 3:04 PM

To: Brantley, Mark

Cc: Allen, Trent; Karoly, Cyndi; Satterwhite, Dana; Culpepper, Linda; Wiggins,

Kent; Jones, Nick; Strynar, Mark
Subject: Sample bottles

Mark, I picked up the latest set of QC samples from EPA this morning. I have them in a cooler heading your way. The courier picked them up at 1:00 today so you should see them tomorrow.

There are six empty bottles in case you need them. There are also six QC samples. Three of them have HNO3 and three do not. The ones without acid are to be sent to TestAmerica in your next shipment to them. The three with acid are to come back to the EPA laboratory.

I think we had discussed sending the EPA cooler back with your last shipment, so you can just put everything for EPA in that cooler. Send back any bottles that you don't use since EPA reuses their bottles.

Let me know if I've left any needed info out. Thanks!

Chris Johnson

Environmental Program Supervisor

Water Sciences Section / Organic Chemistry Branch

North Carolina Department of Environmental Quality

Division of Water Resources

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Raleigh, NC 27607

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From: Strynar, Mark

Sent: Thursday, June 29, 2017 1:08 PM

To: Medina-Vera, Myriam; Buckley, Timothy; Tong-Argao, Sania

Cc: McCord, James; Newton, Seth; Lang, Johnsie

Subject: NC DEQ samples update

Here is an update on NC DEQ samples:

- 1) Week 1 sample event water has been processed and should be put on the UPLC-MS/MS tonight.
- 2) Week 2 samples have not yet been received. They samples are due to the NC DEQ office in Raleigh via courier today. They are set to be delivered to our lab

next Monday July 3rd for analysis.

- 3) Week 3 samples are set to be collected on July 3rd (Fayetteville area) and July 6th (Wilmington area). I asked Chris Johnson to get those samples to us asap due to a pending family vacation I have on July 11-20th.
- 4) QA/QC samples that were prepared last week for Week 2 sampling are going to come back in the Week 2 sampling event to EPA; a second QA/QC set I prepared is currently in route to Test America.
- 5) Blind QA/QC samples were prepared by a 3rd independent party (Adam Swank NHEERL) to be included in the Week 3 sampling. Common QA/QC samples will both go to Test America and come back to the EPA. Chris Johnson and his QA Manager just left with these QA/QC samples and additional empty bottles for the Week 3 sampling event.
- Sania has been doing some technical audits of the SOP being performed and observed. She will be getting me comments to include in our SOP for this analysis. The QA staff deemed a separate QAPP rather than an addendum was needed for this project. I am working toward completing this in between analysis.
- 7) The complete method validation of GenX (and 4 other PFECAs) has been done (thanks to James McCord, Seth Newton and Johnsie Lang) and the samples are also set to be injected on the UPLC-MS/MS tonight. This info will be added to performance criteria in tap water, waste water and surface water.

I may have forgotten something but that is my recollection of where we are right now.

Thanks,

Mark

Dr. Mark J. Strynar

Physical Scientist

US EPA

National Exposure Research Laboratory

919-541-3706

Strynar.mark@epa.gov